

REMARKS/ARGUMENTS

Claims 1-5 are pending herein. Claim 1 has been amended hereby to restore the original angle range limitation of 110 to 160°. Claims 1, 4, and 5 have also been amended for clarification purposes. Applicant respectfully submits that support for the amended claims can be found, for example, in Figs. 1(a) and 1(b), and that no new matter has been added.

1. Claims 1-5 were rejected under §102(b) over JP '920. All the references to JP '920 relate to the English language translation thereof provided by the PTO. To the extent that the PTO might attempt to assert this rejection against the rewritten claims submitted above, it is respectfully traversed.

Independent claim 1 recites a ceramic filter comprising a porous body including, among other things, a plurality of first flow passages having a first cross-sectional shape and a plurality of second flow passages having a second cross-sectional shape that is different from that of the first flow passages. The first and second flow passages are partitioned from one another via partition walls. The porous body also includes filtration membranes provided on inner wall surfaces of the first and second flow passages.

The cross-sectional shapes of the plurality of first and second flow passages, in a direction perpendicular to a flow direction of the fluid to be purified or the purified fluid, are aligned in rows with a predetermined pattern. At least one specific partition wall part, among the partition walls, is positioned between rows of the first flow passages. The cross-sectional shape of the specific partition wall part, in the direction perpendicular to the fluid flow direction, is so formed as to be encompassed by a shape defined by two parallel lines spaced apart at a specified distance from each other. The cross-sectional shapes of the first flow passages, in the direction perpendicular to the fluid flow direction, are irregular polygonal shapes having seven or more sides. The first flow passages are arranged so that a predetermined reference side of one of the irregular polygon-shaped first flow passages faces a predetermined reference side of

another of the irregular polygon-shaped first flow passages on opposite sides of the specific partition wall part so that the facing predetermined reference sides constitute the two parallel lines.

As explained above, in the present invention, the cross-sectional shape of the first flow passages is an irregular polygon shape having seven or more sides, and these polygonal first flow passages are aligned so that predetermined reference sides of the polygon-shaped passages that face one another across the specific partition wall part constitute two parallel lines. Applicant respectfully submits, however, that this feature is not disclosed or suggested in JP '920, and that the prior art of record fails to disclose each and every feature recited in independent claim 1 for at least the following reasons.

That is, Applicant respectfully submit that JP '920 merely proposes the necessity of the formation of a plurality of "straight partition walls 7" at a regular interval between the cell walls having a shape other than a straight shape to prevent deformation after extrusion. The straight partition walls are formed in the form of two rows parallel to one another, sandwiching a series of square cells, and are linearly distributed across the basal body of the honeycomb structure, as shown in Fig. 1(a) of JP '920. However, Applicant respectfully submits that one skilled in the art would readily recognize that the straight partition walls are not necessarily the partition walls for the square cells, as shown in Fig. 1(a). In this respect, Applicant respectfully submits that Figs. 3(a) and (b) of JP '920 also show that no parallel lines are formed by any of side faces of cells 33a, 33b and 33c facing the straight partition walls 34a and 34b.

Perhaps more important, however, is the fact that JP '920 completely fails to disclose or suggest a plurality of first flow passages having a first cross-sectional shape (as defined in claim 1), a plurality of second flow passages having a different cross-sectional shape, and a plurality of third flow passages arranged with respect to the specific partition wall part according to the pending claims.

In addition, the PTO asserted that the arguments contrasting the unexpected results of the present invention with the comparative example (that corresponds to JP '920) were not persuasive. Those arguments are incorporated herein by reference. Specifically, the PTO asserted that "Section 0033 of the English translation of Yasou et al. suggests the increase in the angles of the cell improves the efficiency of the honeycomb by trimming a rectangular cell into an octagonal one. Applicant's data on page 29 simply gives quantitative data for what Yasou et al. disclosed qualitatively. Therefore, applicant's inventions lacks novelty and the rejection is maintained" (Office Action, page 14, last paragraph). Applicant respectfully submits that this analysis is legally incorrect. That is to say, even if JP '920 were considered to suggest a qualitative characteristic (i.e., a genus of a characteristic), it is well established that the disclosure of a genus does not anticipate or render obvious a specific quantitative species of that genus.

For at least the foregoing reasons, Applicant respectfully submits that JP '920 fails to disclose or suggest each and every feature recited in independent claim 1. Accordingly, Applicant respectfully submits that claim 1, and all claims depending directly or indirectly therefrom, define patentable subject matter over JP '920, and respectfully request that the above rejection be reconsidered and withdrawn.

2. Claims 1-5 were rejected under §103(a) over Yorita. To the extent that the PTO might attempt to assert this rejection against the rewritten claims submitted above, it is respectfully traversed.

Independent claim 1 is discussed above in Section 1.

The PTO asserted that Col. 5, lines 61-64 of Yorita discloses that "other polygons" besides squares can be used, and, according to the PTO, the disclosure of "other polygons" includes heptagons and irregular polygons (see Office Action, page 7, lines 15-16). Applicant respectfully submits that this is clearly an overly broad interpretation of Yorita that the PTO adopted for no other reason than to attempt to reject claim 1.

Indeed, Applicant respectfully submits that one skilled in the art would not have had any logical reason to conclude that the cited portion of Yorita, or in any other part of Yorita, could possibly mean that an irregular polygon having more than seven sides, and having the specifically claimed facing reference sides defining parallel lines and the claimed angles could or should somehow be used in Yorita, and would not have had any reasonable expectation of success in so doing.

Even in view of the above, however, Applicant respectfully submits that Yorita simply fails to disclose or suggest the claimed first, second and third flow passages, the arrangements and the structural relationships recited in the claims. Accordingly, Applicant respectfully submits that all claims pending herein define patentable subject matter over Yorita, and respectfully requests that the above-rejection be reconsidered and withdrawn.


If the Examiner believes that contact with Applicants' attorney would be advantageous toward the disposition of this case, the Examiner is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,

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